Pinus taeda - Quercus (alba, falcata, stellata) Forest [Provisional]

COMMON NAME	Loblolly pine - mixed oak forest
SYNONYM	
TNC SYSTEM	Terrestrial
PHYSIOGNOMIC CLASS	I. Forest
PHYSIOGNOMIC SUBCLASS	IC. Mixed evergreen deciduous forest
PHYSIOGNOMIC GROUP	IC2. Mixed broad-leaved evergreen cold-deciduous forest
FORMATION	IC2Na. Mixed needle-leaved evergreen cold-deciduous forest
ALLIANCE	*Pinus taeda - Quercus (alba, falcata, stellata)* Forest Alliance

CLASSIFICATION CONFIDENCE LEVEL 3

RANGE
This alliance has been described from Texas, Louisiana, Arkansas, and north to Virginia, Maryland and Delaware. Further clasification is needed to define the associations within this alliance and their corresponding ranges.

ENVIRONMENTAL DESCRIPTION
Throughout the range, associations of this alliance occur on dry sand or sand loam, clay loam, or silty clay loams. Soils are often coarse textured, shallow and droughty. This vegetation occurs on mid to lower slopes on broad flats or in sheltered ravines. At Rock Creek Park the association occurs exclusively on areas mapped as Joppa soils (Smith 1976), which are well-drained to excessively drained gravelly sandy loams of the coastal plain.

USFWS WETLAND SYSTEM Terrestrial

MOST ABUNDANT SPECIES

Globally

Strata	Species
Canopy	diverse; no dominant species
Sub-canopy	
Shrub layer	
Herbaceous	

Rock Creek Park

Strata	Species
Canopy	diverse; no dominant species
Sub-canopy	
Shrub layer	
Herbaceous	(sparse or patchy)

DIAGNOSTIC SPECIES
Rangewide: *Pinus taeda, Quercus falcata, Q. alba, Q. stellata, Carya* spp. At Rock Creek Park: *Prunus serotina, Liquidambar styraciflua, Quercus stellata, Quercus falcata, Quercus phellos, Pinus taeda*

VEGETATION DESCRIPTION
This association has not been defined yet and is based on the alliance classification. Virginia pine (*Pinus virginiana*) and loblolly pine (*Pinus taeda*) are usually present, generally less abundant in more mature stands. Turkey oak (also known as southern red oak, *Quercus falcata*) is characteristic but other oaks are also present including white oak (*Q. alba*), post oak (*Q. stellata*), black oak (*Q. velutina*), scarlet oak (*Q. coccinea*), blackjack oak (*Q. marilandica*) and willow oak (*Q. phellos*). Other less prevalent associates include black gum (*Nyssa sylvatica*), hickory (*Carya glabra, Carya tomentosa*), pitch pine (*Pinus rigida*), sweet gum (*Liquidambar styraciflua*), redbud (*Cercis canadensis*) and flowering dogwood (*Cornus florida*). Ericaceous shrubs are common including blueberry (*Vaccinium* spp.), huckleberry (*Gaylussacia* spp.), azalea (*Rhododendron nudiflorum*) and mountain laurel (*Kalmia latifolia*). Typical herbs and vines are wintergreen (*Gaultheria procumbens*), partridgeberry (*Mitchella* repens), Virginia creeper (*Parthenocissus quinquefolia*) and greenbriar (*Smilax* spp.).

At Rock Creek Park this forest is distinguished by the relatively high diversity of tree species, including a number of species that are infrequent at other locations throughout the park. No single species is dominant in the canopy. This community is characterized by the presence of black cherry (*Prunus serotina*), sweet gum (*Liquidambar styraciflua)*, loblolly pine (*Pinus taeda*)*,* blackjack oak (*Q. marilandica*), chestnut oak (*Q. prinus*), post oak (*Q. stellata*) and turkey oak (*Q. falcata*). Willow oak (*Q. phellos*) is typical in the sub-canopy or shrub layer. Other oaks, hickory (*Carya tomentosa*), and tulip poplar (*Liriodendron tulipifera*) may be present. Beech (*Fagus grandifolia*) tends to be sparse or absent. Typical shrubs & vines include Pennsylvania blackberry (*Rubus pensilvanicus*), greenbrier (*Smilax glauca, S. rotundifolia*), Virginia creeper (*Parthenocissus quinquefolia*), arrow-wood (*Viburnum dentatum*), poison ivy (*Toxicodendron radicans*) and grape (*Vitis* spp). The herb layer tends to be patchy. Seedlings of many of the canopy tree species are represented in the herb layer.

This association was identified at several points within the Fort Totten and Barnard Hill areas at the eastern extent of Rock Creek Park that falls within the Coastal Plain province. The association is closely aligned with the location of Joppa soils in the park. This vegetation type was not described from any other areas of the park and is probably limited to the coastal plain. Long (1911, New Jersey) noted that *Liquidambar styraciflua* and *Quercus*

phellos were species by which the coastal plain could be clearly delineated from the Piedmont in this vicinity.

Neither Jorling (1969) nor Anderson et al. (1977) describe this vegetation type within Rock Creek Park but the Fort Totten and Barnard Hill areas were not included in their studies. The pine forest described by Anderson et al. (1977) is not the same as this association. Shreve et al. (1910) did describe a similar forest type from Prince George County, Maryland which abuts Washington D.C. This was characterized by loblolly pine (*Pinus taeda*), Virginia pine (*Pinus virginiana*), white oak (*Quercus alba*), black oak (*Q. velutina),* spanish oak (or turkey oak, *Q. falcata*), and post oak (*Q. stellata*). Black jack oak (*Q. marilandica*) was noted as present but less abundant than other oaks, beech (*Fagus grandiflora*) was also present. Shreve et al. (1910) described the forest as in early development due to the presence of early successional species such as the pines, black cherry, and sassafras. These descriptions appear to be closely related to the forest type that currently occurs at sites within Fort Totten and Barnard Hill. Past disturbance regime of Rock Creek sites is further implied from a related forest association in New Jersey (Lord and Boerner 1981) where areas with more recent disturbance (e.g., forest margins and jeep trails) contained the greater frequency of *Prunus serotina* and *Sassafras albidum.*

Currently, the association level classification for this forest type at Rock Creek Park has not been determined. The Rock Creek type is related to and may be the same as the *Pinus taeda - Quercus falcata / Gaylussacia baccata* Forest Association (loblolly pine - turkey oak / black huckleberry forest) that has been described from the Coastal Plain of Chesapeake Bay within this Alliance. Additional information and classification is needed to more precisely assign the Rock Creek park type at the association level.

At Rock Creek Park this Loblolly pine - mixed oak forest (*Pinus taeda - Quercus (alba, falcata, stellata)* Forest [Provisional]) occurs in association with the *Quercus (prinus, velutina) / Gaylussacia baccata* Forest Association.

NOTEWORTHY SPECIES

CONSERVATION RANK G?

RANK JUSTIFICATION Further data are needed to define this association and its rank.

COMMENTS
This is included in the broadly-defined oak-pine forest (Braun 1950) that ranges from New Jersey to Mississippi. The southern coastal plain mixed oak forest subtype of the mesic coastal plain forest (Breden 1989, New Jersey) and the *Pinus taeda - Quercus phellos – Liquidambar* forest (Rawinski 1989, Delaware) are similar and possibly synonymous with this association. The pine-oak forest (Shreve et al. 1910) described from Maryland's western shore district is similar or synonymous with this association. The southern mixed hardwood forest of Ware (1970, Virginia) is also related to this association.

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PLOTS

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